



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/724,812      | 11/28/2000  | Ki-Hyun Joo          | EXIO-005-DKA        | 8224             |

7590 09/21/2004  
EXIO COMMUNICATIONS, INC.  
Suite C  
2362 Qume Drive  
San Jose, CA 95131

EXAMINER

MOORE JR, MICHAEL J

ART UNIT PAPER NUMBER

2666

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

RECEIVED  
OCT 06 2004  
Technology Center 2600

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 09/724,812             | JOO ET AL.          |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Michael J. Moore, Jr.  | 2666                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 November 2000.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 17 and 19-22 is/are rejected.
- 7) ☒ Claim(s) 4, 6-16 and 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 November 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Wireless System 300 spoken of on page 9, line 14 is not labeled in Figure 3. Also, WIBS 310 and O&M server 350 are not labeled in Figure 4. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: CU 105, 106, and 107 as well as PLMN 160 shown in Figure 1 are not mentioned in the specification. Also, none of the elements shown in Figure 2 are referred to in the specification by element number. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any

amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

3. The disclosure is objected to because of the following informalities: On page 1, line 8, the word "stations" should be "station". Also, on page 1, line 8, the word "a" is missing between the words "using" and "wireless". On page 2, line 24, the word "to" is missing between "system" and "utilize". On page 3, line 10, the word "characterized" should be "characterize". On page 3, line 11, the word "system" should be "systems". On page 3, line 14, the word "as" is missing between "such" and "that". On page 3, lines 19 and 20, the phrase "operations and maintenance clients system" should be "operations and maintenance client systems". On page 4, line 17, the word "system" should be "systems". On page 4, line 18, the word "improves" should be "improve". On page 5, line 7, the word "invention" is missing after "present". On page 5, line 15, the word "station" is missing after the word "base". On page 9, line 23, the phrase "maintenance client" should be "maintenance client 305".

On page 10, line 15, the word "be" is not needed after "dynamically". On page 11, lines 8 and 9, "client 304" should be "client 305". On page 11, line 12 the phrase "is

---

provided" is needed after "O&M server 350". On page 11, line 14, it is believed that the phrase "O&M wireless call requests" should be "non-O&M wireless call requests" that are intended for call agent 320. Also on line 14, the word "to" should be "intended for". On page 11, lines 18-21, there is some confusion regarding call processing logic 410. First, it is stated in lines 19 and 20 that call processing logic 410 is within O&M server 350, but call processing logic 410 is present in WIBS 310 in Figure 4. Secondly, lines 20 and 21 state that the O&M server 350 prevents WIBS 310 from mistakenly routing non-O&M calls to call agent 320. The examiner's understanding is that non-O&M calls are what are supposed to be routed to call agent 320.

On page 11, line 23, the word "call" should be "calls". On page 12, line 11, the word "to" is missing between "WIBS 310" and "determine". On page 12, line 12, the phrase "be sent to" is needed between the words "to" and "the". On page 12, line 17, "control logic unit 450" should be "O&M Call processing logic 450" to be more precise. On page 13, lines 1 and 2, the element "O&M function logic 440" should be "O&M Server Functions 460" to correspond to Figure 4. This is also true on page 13, line 3. On page 13, lines 25 and 26, the phrase "data connection to the mobile terminal of the traffic channel" should be labeled as step 550 of Figure 5.

On page 14, there is some confusion regarding steps 560 and 565 of Figure 5. On page 14, lines 1 and 2 it is stated that when mobile terminal receives signal 565, the mobile terminal establishes a point-to-point protocol connection (step 560) with the O&M server. However, in Figure 5 it appears that step 560 occurs before step 565.

Lastly, on page 14, lines 7 and 8, the phrase "send operation and maintenance commands using HTML or other similar Internet communication language" should be labeled as step 580 of Figure 5.

Appropriate correction is required.

### ***Claim Objections***

4. Claim **12** is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim **12** does not appear to further limit claim **9**. The "access control logic unit" of claim **9** appears to have all of the limitations of claim **12**.

5. Claims **1, 6, 7, 9, 12, 13, and 17** are objected to because of the following informalities:

Regarding claim **1**, on line 3, the word "networks" should be "network".

Regarding claim **6**, on line 1, the word "include" should be "includes".

Regarding claim **7**, on line 2, the word "for" is not needed.

Regarding claim **9**, on line 7, the word "an" is needed before "access". Also, on line 8, the word "to" is needed between "station" and "distinguish".

Regarding claim **12**, on line 2, the word "to" is needed after "station".

Regarding claim **13**, on line 1, a colon is missing after the word "comprising".

Regarding claim **17**, on line 11, the word "request" should be "requests".

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

7. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claim 5 recites the limitation "said unique call identification" in line 1. There is insufficient antecedent basis for this limitation in the claim. It is suggested that this phrase be replaced with "said unique call identification number" and this claim be dependent upon claim 4.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by applicant's admitted prior art. Applicant's admitted prior art teaches all the limitations of the listed claims with the reasoning that follows.

Regarding claim 1, "An enterprise CDMA wireless communication system" is anticipated by the prior art enterprise CDMA system of Figure 2. A local area network

Art Unit: 2666

(LAN) is anticipated by the LAN spoken of in regard to Figure 2 on page 3, lines 4-8 as well as lines 14-17. "A plurality of wireless base stations coupled to the LAN, the wireless base stations coupled to communicate with wireless devices coupled within the enterprise wireless communication system via an internet protocol" is anticipated by base transceiver stations 201, 202, and 203 (plurality of wireless base stations) that communicate with wireless devices shown in Figure 2 using an internet protocol such as TCP as stated on page 3, lines 6-7. "A maintenance and operations (M&O) server coupled to the LAN, the M&O server adapted to handle wired and wireless M&O clients communicating to or within the enterprise wireless communication system" is anticipated by the O&M server 210 of Figure 2, which communicates with wired O&M clients 215 and 220 of Figure 2, as well as page 3, lines 24-26 which state that O&M clients (unlabeled wireless units of Figure 2) can be remotely connected to O&M servers to handle the required network management of a system. Lastly, "a call agent coupled to the LAN to process wireless calls from mobile communication units to the enterprise wireless communication system" is anticipated by the remote system operation and maintenance via a call agent spoken of on page 4, lines 1-7.

Regarding claim 2, "wherein the plurality of wireless base stations include wireless call processing logic adapted to handle conventional wireless communication functions" is anticipated by the base transceiver stations 201, 202, and 203 of Figure 2 that perform wireless communication functions pertaining to the unlabeled wireless terminals shown in Figure 2.

---



Regarding claim 3, "wherein the wireless base station further includes a wireless operation and maintenance call processing logic adapted to handle wireless M&O client call requests to the M&O server" is anticipated by the remote access management by O&M mobile devices spoken of on page 4, lines 1-7.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 17 and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of Fulton et al. (US 2002/0010865).

Regarding claim 17, Applicant's admitted prior art teaches a wireless enterprise communication system (Figure 2) that has a plurality of BTS 201, 202, and 203 (wireless base stations), a O&M server 210 that communicates with wired O&M clients

215 and 220 of Figure 2, as well as unlabeled mobile systems shown in Figure 2 (wireless O&M clients). Applicant's admitted prior art also teaches O&M clients that can be remotely connected to O&M servers for remote access management (steps b, d, and e) as stated on page 3, line 24 – page 4, line 3.

Applicant's admitted prior art does not teach, "providing a unique call identification number" or "determining whether the call requests from the wireless clients are valid requests". However, Fulton et al. teaches a method for remote access management where a remote user dials a number associated with a remote access server (unique call identification number). The call request is then examined by security server 130 for authentication (validity) and then a connection is established based upon the result of the authentication. Refer to the abstract of Fulton et al. as well as page 1, paragraph 25. At the time of the invention, it would have been obvious to someone of ordinary skill in the art given these references to combine the Applicant's admitted prior art with the authentication of Fulton et al. in order to provide secure remote access in an enterprise system.

Regarding claim 19, Applicant's admitted prior art further teaches a data connection path between BTS 201 and unlabeled mobile devices (M&O clients) in Figure 2.

Regarding claim 20, Applicant's admitted prior art further teaches a data connection path between BTS 201 and O&M server 210 for call processing.

Regarding claim **21**, Applicant's admitted prior art further teaches a point-to-point communication path between unlabeled mobile devices of Figure 2 and O&M server 210 of Figure 2 via BSC 110.

Regarding claim **22**, Applicant's admitted prior art further teaches internet connectivity for remote system operation and maintenance between an O&M server and O&M clients on page 4, lines 1-7.

***Allowable Subject Matter***

14. Claims **9-11 and 13-16** are allowable over the prior art of record.
15. Claims **4, 6-8, and 18** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
16. Claim **5** would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
17. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim **4**, the prior art of record teaches the system of claim **3**. The prior art of record fails to teach "call identification number negotiation logic" at the wireless base station for negotiating a "unique call identification number between the M&O server and the wireless base station" in order to enable remote wireless M&O clients to communicate with the M&O server.

Regarding claim **6**, this claim is further limiting to claim **4** and is thus also allowable over the prior art of record.

Regarding claim **7**, the prior art of record teaches the system of claim **1**. The prior art of record fails to teach "call negotiation logic" at the M&O server for negotiating "unique call identification numbers between the M&O server and the wireless base station" in order to enable remote wireless M&O clients to communicate with the M&O server.

Regarding claim **8**, this claim is further limiting to claim **7** and is thus also allowable over the prior art of record.

Regarding claim **9**, the prior art of record teaches a wireless enterprise communication system with a plurality of base stations that provides remote access maintenance and operation functions to a plurality of remotely coupled wireless O&M devices. The prior art of record fails to teach a first and a second call processing logic unit within each base station as well as an "access control logic unit" for setting a "unique call identification number" that enables the base station to distinguish between call requests from the wireless O&M devices and other wireless devices within the enterprise system.

Regarding claims **10 and 11**, these claims are further limiting to claim **9** and are thus also allowable over the prior art of record.

Regarding claim **13**, the prior art of record teaches a maintenance and operations (M&O) server for providing wireless remote access and local operations and maintenance access to wired and wireless M&O devices. The prior art of record also

Art Unit: 2666

teaches call processing logic in the M&O server for processing remote call requests from the remote wireless M&O devices. The prior art of record fails to teach an "access control logic unit" in the M&O server for setting a "unique call identification number" in order to enable the remote wireless devices to communicate with the M&O server.

Regarding claims **14-16**, these claims are further limiting to claim **13** and are thus also allowable over the prior art of record.

Regarding claim **18**, the prior art of record teaches the method of claim **17**. The prior art of record fails to teach the step of negotiating between the wireless base station and the M&O server to dynamically set a "call identification number" to enable the M&O client to initiate calls to the enterprise system.

### ***Conclusion***

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sayers et al. (U.S. 6,687,243), McIntosh et al. (U.S. 6,535,732), and Worley et al. (U.S. 6,651,190) are all references that contain material pertinent to this application.

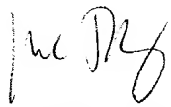
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Moore, Jr. whose telephone number is (571) 272-3168. The examiner can normally be reached on Monday-Friday (8:30am - 5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached at (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael J. Moore, Jr.  
Examiner  
Art Unit 2666

mjm MM

  
**FRANK DUONG**  
**PRIMARY EXAMINER**

|                                   |                                       |  |             |
|-----------------------------------|---------------------------------------|--|-------------|
| <b>Notice of References Cited</b> | Application/Control No.<br>09/724,812 | Applicant(s)/Patent Under<br>Reexamination<br>JOO ET AL. |             |
|                                   | Examiner<br>Michael J. Moore, Jr.     | Art Unit<br>2666   | Page 1 of 1 |

**U.S. PATENT DOCUMENTS**

| * |   | Document Number<br>Country Code-Number-Kind Code | Date<br>MM-YYYY | Name            | Classification |
|---|---|--|-----------------|-----------------|----------------|
|   | A | US-2002/0010865 A1                               | 01-2002         | FULTON et al.   | 713/201        |
|   | B | US-6,687,243 B1                                  | 02-2004         | Sayers et al.   | 370/356        |
|   | C | US-6,535,732 B1                                  | 03-2003         | McIntosh et al. | 455/445        |
|   | D | US-6,651,190 B1                                  | 11-2003         | Worley et al.   | 714/43         |
|   | E | US-  |                 |                 |                |
|   | F | US-  |                 |                 |                |
|   | G | US-  |                 |                 |                |
|   | H | US-  |                 |                 |                |
|   | I | US-  |                 |                 |                |
|   | J | US-  |                 |                 |                |
|   | K | US-  |                 |                 |                |
|   | L | US-  |                 |                 |                |
|   | M | US-  |                 |                 |                |

**FOREIGN PATENT DOCUMENTS**

| * |   | Document Number<br>Country Code-Number-Kind Code | Date<br>MM-YYYY | Country | Name | Classification |
|---|---|--|-----------------|---------|------|----------------|
|   | N |  |                 |         |      |                |
|   | O |  |                 |         |      |                |
|   | P |  |                 |         |      |                |
|   | Q |  |                 |         |      |                |
|   | R |  |                 |         |      |                |
|   | S |  |                 |         |      |                |
|   | T |  |                 |         |      |                |

**NON-PATENT DOCUMENTS**

| * |   | Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages) |
|---|---|---|
|   | U |   |
|   | V |   |
|   | W |   |
|   | X |   |

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.